Supplementary Material

Probing cerebellar involvement in cognition through a meta-analysis of TMS evidence

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Additional information

We report below the tables with the number of the studies per condition of the non-significant meta-regressions included in the manuscript.

Online vs. Offline

Table S2. Study numerosity of the first meta-regression on accuracy.

	Online	Offline
Timing	$N = 24$	$N = 20$

Cognitive functions

Table S3. Study numerosity of the third meta-regression on accuracy.

	Attention	Episodic memory	Executive functions	Learning	Memory	Semantic memory	Social cognition	Spatial cognition	Timing	Working memory
Cognitive Function	$N = 2$	$N = 1$	$N = 6$	$N = 1$	$N = 3$	$N = 4$	$N = 9$	$N = 5$	$N = 6$	$N = 7$

Table S4. Study numerosity of the third meta-regression on RTs.

	Executive functions	Learning	Music	Semantic memory	Social cognition	Spatial cognition	Timing	Working memory
Cognitive Function	$N = 6$	$N = 1$	$N = 1$	$N = 11$	$N = 10$	$N = 4$	$N = 1$	$N = 7$

Cerebellar lateralization

Table S5. Study numerosity of the meta-regression on accuracy and lateralization.

	Left	Middle	Right
Cerebellar site	$N = 16$	$N = 5$	$N = 14$

Table S6. Study numerosity of the meta-regression on RTs and lateralization.

	Left	Middle	Right
Cerebellar site	$N = 14$	$N = 6$	$N = 14$

The forest plots of the meta-analyses on signed effect sizes with $r = .75$ are reported in Figure S1 (accuracy) and Figure S2 (RTs), respectively.

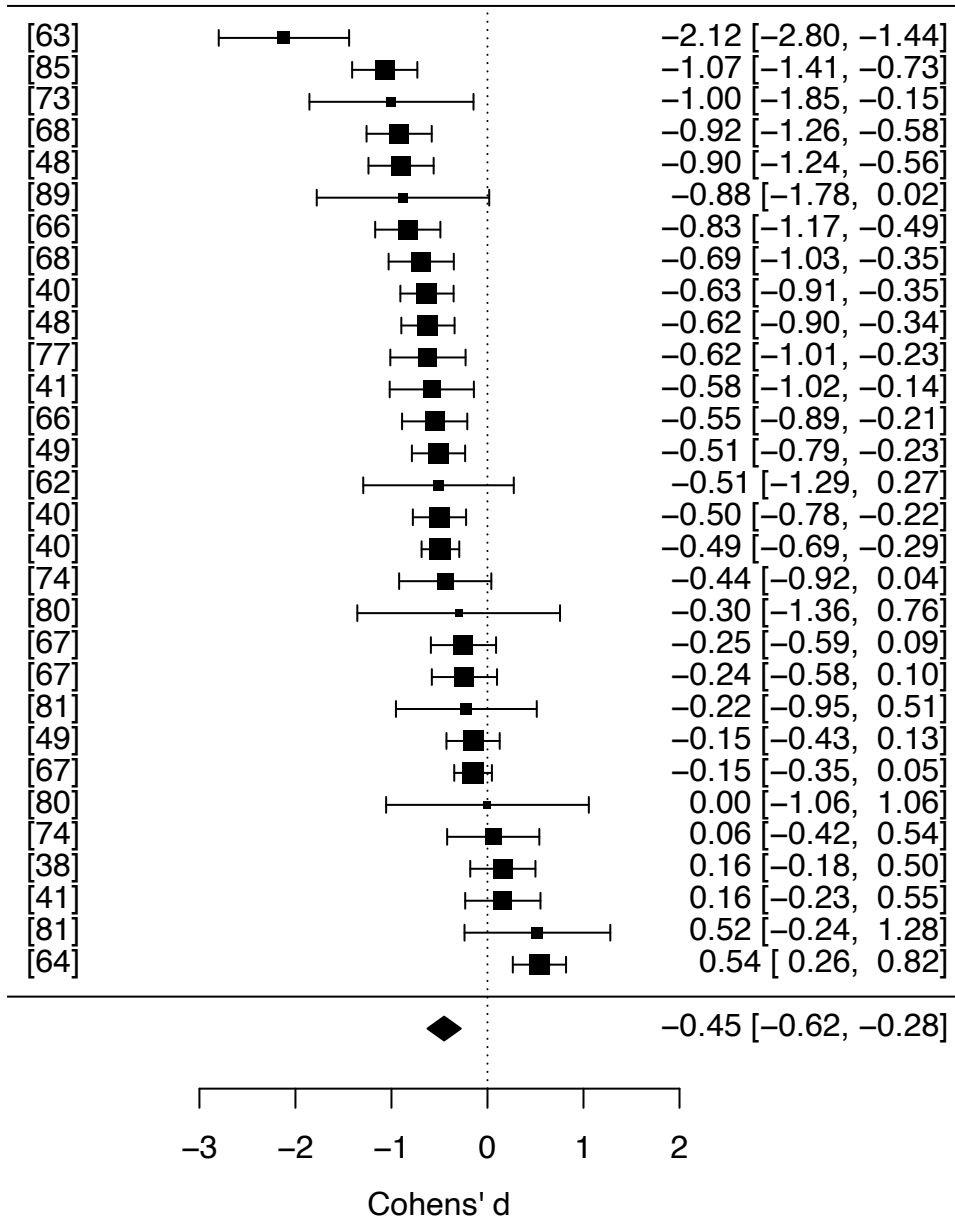|	
[63]	−2.12 [−2.80, −1.44]
[85]	−1.07 [−1.41, −0.73]
[73]	−1.00 [−1.85, −0.15]
[68]	−0.92 [−1.26, −0.58]
[48]	−0.90 [−1.24, −0.56]
[89]	−0.88 [−1.78, 0.02]
[66]	−0.83 [−1.17, −0.49]
[68]	−0.69 [−1.03, −0.35]
[40]	−0.63 [−0.91, −0.35]
[48]	−0.62 [−0.90, −0.34]
[77]	−0.62 [−1.01, −0.23]
[41]	−0.58 [−1.02, −0.14]
[66]	−0.55 [−0.89, −0.21]
[49]	−0.51 [−0.79, −0.23]
[62]	−0.51 [−1.29, 0.27]
[40]	−0.50 [−0.78, −0.22]
[40]	−0.49 [−0.69, −0.29]
[74]	−0.44 [−0.92, 0.04]
[80]	−0.30 [−1.36, 0.76]
[67]	−0.25 [−0.59, 0.09]
[67]	−0.24 [−0.58, 0.10]
[81]	−0.22 [−0.95, 0.51]
[49]	−0.15 [−0.43, 0.13]
[67]	−0.15 [−0.35, 0.05]
[80]	0.00 [−1.06, 1.06]
[74]	0.06 [−0.42, 0.54]
[38]	0.16 [−0.18, 0.50]
[41]	0.16 [−0.23, 0.55]
[81]	0.52 [−0.24, 1.28]
[64]	0.54 [0.26, 0.82]
	−0.45 [−0.62, −0.28]

Cohens' d

Figure S1. Forest plot of the studies that used accuracy as main dependent variable included in the meta-analysis with signed effect sizes. Each row corresponds to one experiment and the lines beside each square represent 95% confidence interval. The size of each square represents the weight of the study. The diamond at the bottom represents the cumulative effect size with 95% confidence interval. Negative values indicate performance impairment, positive values indicate performance enhancement.

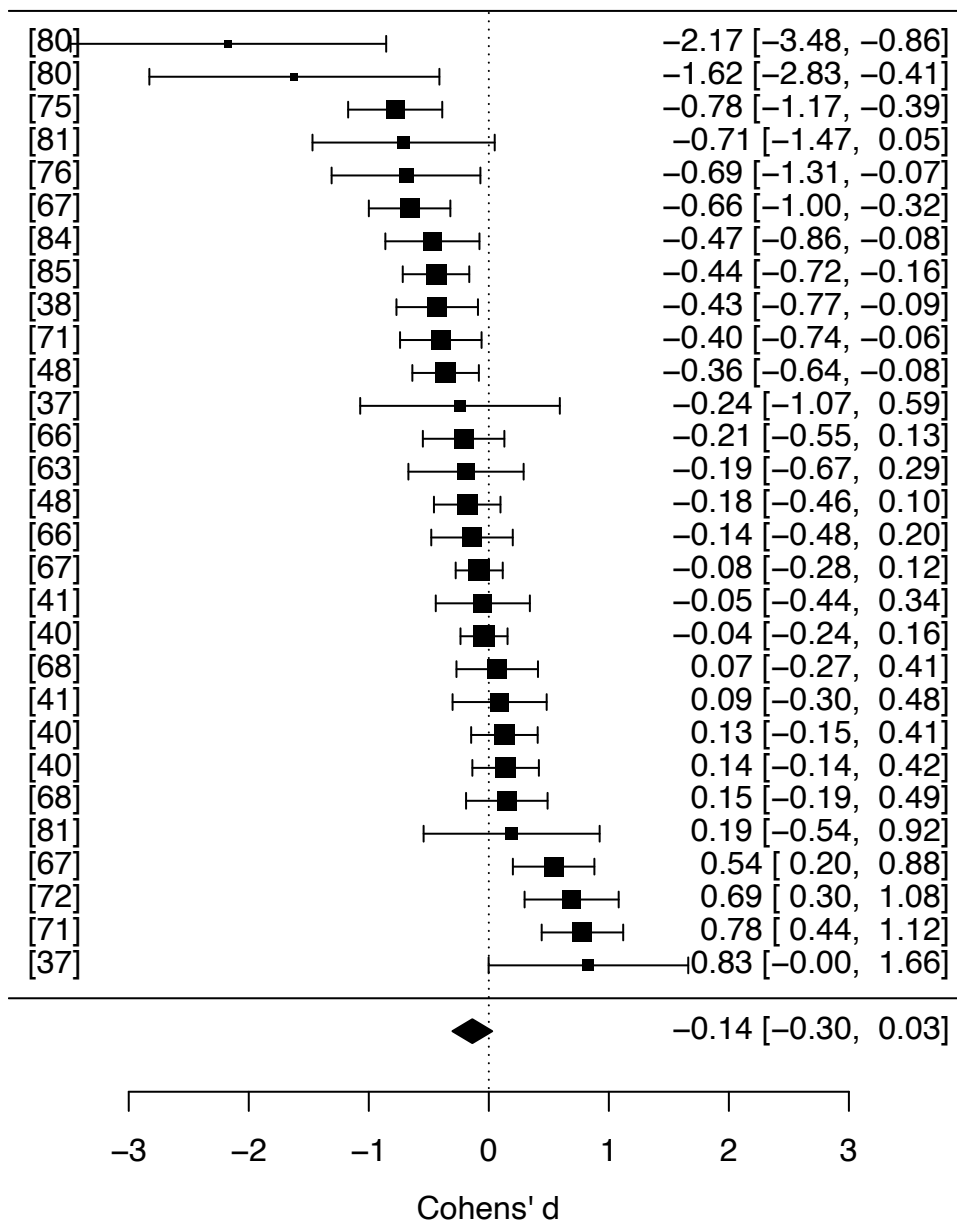|	Cohens' d
[80]	−2.17 [−3.48, −0.86]
[80]	−1.62 [−2.83, −0.41]
[75]	−0.78 [−1.17, −0.39]
[81]	−0.71 [−1.47, 0.05]
[76]	−0.69 [−1.31, −0.07]
[67]	−0.66 [−1.00, −0.32]
[84]	−0.47 [−0.86, −0.08]
[85]	−0.44 [−0.72, −0.16]
[38]	−0.43 [−0.77, −0.09]
[71]	−0.40 [−0.74, −0.06]
[48]	−0.36 [−0.64, −0.08]
[37]	−0.24 [−1.07, 0.59]
[66]	−0.21 [−0.55, 0.13]
[63]	−0.19 [−0.67, 0.29]
[48]	−0.18 [−0.46, 0.10]
[66]	−0.14 [−0.48, 0.20]
[67]	−0.08 [−0.28, 0.12]
[41]	−0.05 [−0.44, 0.34]
[40]	−0.04 [−0.24, 0.16]
[68]	0.07 [−0.27, 0.41]
[41]	0.09 [−0.30, 0.48]
[40]	0.13 [−0.15, 0.41]
[40]	0.14 [−0.14, 0.42]
[68]	0.15 [−0.19, 0.49]
[81]	0.19 [−0.54, 0.92]
[67]	0.54 [0.20, 0.88]
[72]	0.69 [0.30, 1.08]
[71]	0.78 [0.44, 1.12]
[37]	0.83 [−0.00, 1.66]
	−0.14 [−0.30, 0.03]

Figure S2. Forest plot of the studies that used RTs as main dependent variable included in the meta-analysis with signed effect sizes. Each row corresponds to one experiment and the lines beside each square represent 95% confidence interval. The size of each square represents the weight of the study. The diamond at the bottom represents the cumulative effect size with 95% confidence interval. Negative values indicate performance impairment, positive values indicate performance enhancement.